

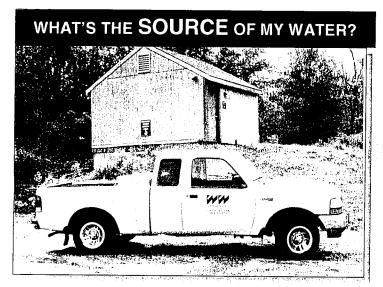
## **Assabet Water Company, Inc.**

P.W.S. ID. #2286001

# 2000 REPORT ON WATER QUALITY

## TEST RESULTS AND THE QUALITY OF YOUR DRINKING WATER

This is the Assabet Water Company's annual report to you on water quality. The statistics in this report are based on testing done throughout 2000. We hope you will find it helpful to know the sources of your water and the process by which safe drinking water is delivered to your home.



The Assabet Water Company (AWC) supplies water pumped from two groundwater wells within Harvard Acres stored in two 40,000 gallon water towers and distributed to customers through approximately 18,000 ft. of underground pipe.

#### WATER TREATMENT

State and Federal water regulations require certain chemical treatments before groundwater enters the distribution system. Sodium hypochlorite is added for disinfection and calciquest is added as a sequestering agent for iron and manganese. Calciquest also serves as a corrosion inhibitor to minimize the leaching of lead and copper from household plumbing into the tap water. Potassium hydroxide is added to adjust the pH of the water.

## IS YOUR WATER SAFE TO DRINK?

The Assabet Water Company continuously strives to produce the highest quality water possible to meet or surpass every water quality standard. We monitor both our sources and distribution system very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

In order to ensure tap water is safe to drink, the Environmental Protection Agency prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

## Waiver

The AWC has a monitoring waiver for synthetic organic contaminants (SOCs) because no traces were found in previous monitoring. The Department of Environmental Protection has determined the water to be protected from these contaminants and monitoring frequency has been reduced. The last sample collected was in September of 1994 and SOCs were not detected.

## The Assabet Water Company, Inc.

MHITEMATER

WhiteWater, Inc has owned, operated and maintained the

water system of the Assabet Water Company since December 1, 1999. If you have any questions about this report, please contact:

Russell Tierney at 1-888-377-7678.

## WHAT WE ARE DOING TO IMPROVE WATER QUALITY?

Our staff has been working diligently over the past year to improve water quality, quantity and pressure for the residents of Harvard Acres. Changes in the treatment process and frequent monitoring have improved the quality of water. Repairs and upgrades to the pumping systems and telemetry have improved pressure and quantity, but some issues remain. After cleaning Well #1 and conducting microscopic particulate analysis, it was determined that this well was under the influence of surface water, as well as having a high level of iron. As a precaution, the well was taken off line and we have been researching ways to supplement this source. We compared the cost and risk associated with locating and installing a new well with the cost of treatment and filtration of the existing well water and concluded that treatment of a known viable source of water was more cost effective. We have discussed this matter with the homeowners association and will begin the design and permitting phase in early June 2001. Completion is projected for the end of this year. Filtering this well will provide residents with a backup source and additional water to meet high demand needs. Upon completion of this project, we will begin addressing other issues such as pressure, metering, and flows. In the meantime, because of limited supply, we ask you to conserve in your use of water.

(Continued from page 3) Source Water Characteristics USOS.

- Organic chemical contaminants, including Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. These contaminants can also come from gasoline storage, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

## **FOR YOUR INFORMATION**

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Where to go for more information ....

Massachusetts Department of Environmental Protection (DEP) 617-292-5885. www.state.ma.us/dep

Massachusetts drinking water education partnership www.newwa.org/madwep

WhiteWater, Inc. 41 Central Street Auburn, MA 01501

Metals	Date Collected	90 <sup>th</sup> Percentile of Test	# of Sites Above Action Level		Action Level	MCLG	Violation	Possible Source of Contamination
Lead (ppb)	11/30/00	4.58	1	28	15	0	No	Corrosion of household plumbing systems
Copper (ppm)	11/30/00	.43	1	28	1.3	1.3	No	Corrosion of household plumbing systems
Lead (ppb)	6/5/00	2.3	1	24	15	0	No	Corrosion of household plumbing systems
Copper (ppm)	6/5/00	1.56	7	24	1.3	1.3	Yes	Corrosion of household plumbing systems

In June of 2000, the AWC collected 24 water samples from consumer taps to test for lead and copper. The test results showed copper levels above the action level, indicating the need to optimize the existing corrosion control treatment. AWC petitioned with the Department of Environmental Protection to change the chemical used for pH adjustment (along with making changes to the treatment process). AWC discontinued using potassium carbonate and began using potassium hydroxide to increase the pH. In November of 2000, the AWC collected 28 water samples and the results improved dramatically. For the first time, the AWC passed lead and copper testing. A summary of these results are listed in this report.

#### **HEALTH EFFECTS OF COPPER**

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

#### **TESTING FOR LEAD**

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If you are concerned about potentially elevated lead levels in your home's water (even though overall results do not indicate elevated levels of lead), simply flush the tap for 30 seconds to two minutes prior to using for cooking or drinking. For more information on lead testing, please call Russell Tierney at 1-888-377-7678.

Microbial Results	Highest # Positive in a Month	MCL	MCLG	Violation	Possible Source of Contamination
Total Coliform Bacteria	0	0	0	No	Naturally present in the environment
Fecal Coliform or E.coli	0	0	0	No	Naturally present in the environment

Coliform - Coliform are bacteria that are naturally present in the environment and are used to indicate that other, potentially harmful bacteria may be present. Your wells have been found to be free of any trace of bacteria.

### Kevitoitables

- ppm Pansiper Imilion corresting sponds to one penny in \$10,000
- ppb Parts per billion, corresponds to one penny in \$10,000,000
- pCi/L Picocuries per liter
- ND Non-detect
- n/a –not applicable

## SOME TERMS DEFINED

**Action Level:** The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

**Secondary Maximum Contaminant Level (SMCL):** These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (ORSG): This is the concentration of a chemical in drinking water, at or below which, adverse, non-cancer health effects are likely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Total Coliform: A bacteria that indicates other potentially harmful bacteria may be present.

**90<sup>th</sup> Percentile:** Represents the highest value found out of 90 percent of the samples taken in a representative group.

This report summarizes only those items detected during sampling - not all contaminants that are monitored.

Regulated Contaminant	Date Collected	Highe Detec	t Detected		MCLG	Violation		Possible Source of Contamination
Nitrate (ppm)	8/17/00	.84	n/a	10	10	No		nal wastes, fertilizer, natural deposits, septic s, sewage
Barium (ppm)	8/17/00	.052	n/a	2	2	No		harge of drilling wastes, metal refineries; Ero- of natural deposits
Fluoride (ppm)	8/17/00	.41	n/a	2	4	No	mote	ion of natural deposits; Water additive to pro- estrong teeth; Aluminum & fertilizer factory narge
Secondary or Unregulated Contaminant		nt	Date Collected	Highest Detect Value	Range Detected	SMCL	ORSG	Major Source in Drinking Water
Sodium (ppm)	8/17/00		8/17/00	16	n/a	20	20	Natural sources
Sulfate (ppm)			8/17/00	66	n/a	250	n/a	Natural sources
Chloroform (ppm	)		8/17/00	.56	n/a	n/a	.005	Chloroform is often produced during the chlorination of drinking water
Nickel (ppm)			8/17/00	.026	n/a	n/a	.1	Metal alloys, electroplating, batteries, chemical production

Sodium is a naturally-occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure and hypertension. The guideline of 20 mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment at 617-624-5757.

## SHOULD SOME PEOPLE TAKE SPECIAL PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV / AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from

infections. These people should seek advice about drinking water from their health care providers. EPA / CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

## **SOURCE WATER CHARACTERISTICS**

The sources of drinking water in the United States (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

 Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential

(Continued on page 4)



## Assabet Water Company, Inc.

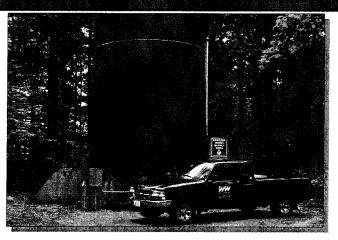
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# REPORT ON WATER QUALITY

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This is the Assabet Water Company's annual report to you on water quality. The statistics in this report are based on testing done throughout 2001. We hope you will find it helpful to know the sources of your water and the process by which safe drinking water is delivered to your home.

## WHAT'S THE SOURCE OF MY WATER?



The Assabet Water Company (AWC) supplies water pumped from one groundwater well (Well #2) within Harvard Acres off Adams Drive. A second well (Well #1) has been placed on the MA Department of Environmental Protection's inactive list due to surface water influence detected last year. We are currently designing and proposing the installation of a new water treatment plant to bring this well back on line. Please refer to the last page of this report for details. Water is then stored in two 40,000-gallon towers and distributed to customers through approximately 18,000 linear ft. of underground pipe.

#### WATER TREATMENT

State and Federal water regulations require certain chemical treatments before groundwater enters the distribution system. Sodium hypochlorite is added for disinfection and calciquest is added as a sequestering agent for iron and manganese. Calciquest also serves as a corrosion inhibitor to minimize the leaching of lead and copper from household plumbing into the tap water. Potassium hydroxide is added to adjust the pH of the water.

## IS YOUR WATER SAFE TO DRINK?

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In order to ensure tap water is safe to drink, the Environmental Protection Agency prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

#### Waiver

The AWC has a monitoring waiver for synthetic organic contaminants (SOCs) because no traces were found in previous monitoring. The Department of Environmental Protection has determined the water to be protected from these contaminants and monitoring frequency has been reduced. The last sample collected was in September of 1994 and SOCs were not detected.

## The Assabet Water Company, Inc.



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water system of the Assabet Water Company since December 1, 1999. If you have any questions about this report, please contact:

Russell Tierney at 1-888-377-7678.

Metals	Date Collected	90 <sup>th</sup> Percen- tile of Test	ADOVE	# of Sites sampled	Action Level	MCLG	Violation	Possible Source of Contamination
Lead (ppb)	1st Half	10	1	20	15	0	No	Corrosion of household plumbing systems
Copper (ppm)	2001	.959	0	20	1.3	1.3	No	Corrosion of household plumbing systems

#### HEALTH EFFECTS OF COPPER

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

#### **TESTING FOR LEAD**

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If you are concerned about potentially elevated lead levels in your home's water (even though overall results do not indicate elevated levels of lead), simply flush the tap for 30 seconds to two minutes prior to using for cooking or drinking. For more information on lead testing, please call Russell Tierney at 1-888-377-7678.

Microbial Results	Highest # Positive in a Month	MCL	MCLG	Violation	Possible Source of Contamination
Total Coliform Bacteria	0	0	0	No	Naturally present in the environment
Fecal Coliform or E.coli	0	0	0	No	Naturally present in the environment

Coliform - Coliform are bacteria that are naturally present in the environment and are used to indicate that other, potentially harmful bacteria may be present. Your wells have been found to be free of any trace of bacteria.

#### SHOULD SOME PEOPLE TAKE SPECIAL PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV / AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA / CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

#### Keyito Tables

- ppm Parts per million, corresponds to one penny in \$10,000.
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90<sup>th</sup> Percentile: Represents the highest value found out of 90 percent of the samples taken in a representative group.

This report summarizes only those items detected during sampling - not all contaminants that are monitored.

Regulated Contaminant	Date Collected	Highest Detect Value	Ranne :	MCL	MCLG	Violation	Possible Source of Contamination
Nitrate (ppm)	7/12/01	.691	n/a	10	10	No	Animal wastes, fertilizer, natural deposits, septic tanks, sewage
Barium (ppm)	8/17/00	.052	n/a	2	2	No	Erosion of natural deposits
Fluoride (ppm)	8/17/00	.41	n/a	4	2	No	Erosion of natural deposits; Water additive to promote strong teeth

Secondary or Unregulated Contaminant	Date Collected	Highest Detect Value		SMCL	ORSG	Major Source in Drinking Water
Sodium (ppm)	8/17/00	16	n/a	20	20	Natural sources
Sulfate (ppm)	8/17/00	66	n/a	250	n/a	Natural sources
Chloroform (ppm)	8/17/00	.56	n/a	n/a	.005	Chloroform is often produced during the chlorination of drinking water
Nickel (ppm)	8/17/00	.026	n/a	n/a	.1	Metal alloys, electroplating, batteries, chemical production

Sodium is a naturally-occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure and hypertension. The guideline of 20 mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment at 617-624-5757.

#### SOURCE WATER CHARACTERISTICS

The sources of drinking water in the United States (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage.
- treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. These contaminants can also come from gasoline storage, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

#### **VOLUNTARY WATER USE RESTRICTIONS**

Due to the drought conditions New England experienced this past winter, Assabet Water Company is asking that each of you lend a hand in restoring our water levels to normal. Water conservation measures are an important first step in protecting our water supply. Such measures not only preserve the supply of our source water, but can also save you money by reducing your water bills. To help you help us, we offer the following conservation tips:

#### Inside Your Home

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices . in faucets, toilets and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers.
- Do not let the water run while shaving or brushing teeth.
- · Soak dishes before washing.
- Run the dishwasher only when full.

#### **Outdoor Tips**

- Water the lawn and garden in the early morning or evening.
- Use mulch around plants and shrubs.
- Use water-saving nozzles on hoses.
- Use water from a bucket to wash your car, and save the hose for rinsing.

## WHAT WE ARE DOING TO IMPROVE WATER QUALITY?

Over the past year our staff has been working closely with Mr. Eric Groton, Groton Pilot Solutions (GPS), on the design of a new water filtration plant. It is our intention to begin construction of this plant in late May 2002. The new plant will filter out iron and manganese and ensure the proper removal of microscopic particulates in the

water. Upon completion of the new filter plant, we will be doing some extensive flushing throughout the system. The storage tanks have been inspected and are in good structural condition. There is a build up of sedimentation at the bottom of each and in the spring of 2003 we plan to rehab each tank. This will include the cleaning and painting of both the interior and exterior of the tanks.

### FOR YOUR INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Where to go for more information ....

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WhiteWater, Inc. 41 Central Street Auburn, MA 01501

## REPORT ON WATTER QUALITY

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## Where Does My Water Come From?



The Assabet Water Company (AWC) supplies water pumped from one groundwater well (Well #2) within Harvard Acres off Adams Drive. A second well (Well #1) has been placed on the MA Department of Environmental Protection's inactive list due to surface water influence detected last year. We have designed and will be installing a new water treatment plant to bring this well back on line. Please refer to page 2 (What Are We Doing To Improve Water Quality?) of this report for details. Water is then stored in two 40,000-gallon towers and distributed to customers through approximately 18,000 linear ft. of underground pipe.

#### Maintaining Water Quality

The Assabet Water Company continuously strives to produce the highest quality water possible to meet or surpass every water quality standard. We monitor both our sources and distribution system very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

In order to ensure tap water is safe to drink, the DEP and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

#### Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water we deliver to you, we treat it to remove several contaminants.

Primary Disinfection-Some ground water sources contain numerous microorganisms some of which can cause people to be sick. To eliminate disease carrying organisms it is necessary to disinfect the water. Disinfection does not sterilize the water, but it does destroy harmful organisms. Sterilization kills all microorganisms, even though most are not harmful, and is too costly to use on a routine basis. The Assabet Water Co. uses sodium hypochlorite as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Sequestration-Iron and manganese are often present in groundwater at levels that can discolor the water, or cause it to take on unpleasant odors or tastes. Even though the water may still be safe to drink, treatment is often desirable. Treatment consists of adding calciquest to the water. This results in a chemical reaction, known as sequestration, which prevents the iron and manganese from forming nuisance particles.

**Corrosion Control-Many** drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through.

(Continued on page 2)

## Assabet Water Company, Inc.

WhiteWater, Inc has owned, operated and maintained the water system of the Assabet Water Company since December 1, 1999. If you have any questions about this report, please contact:

Russell Tierney at 24288-377-7678.



Lead & Copper	Date(s) Collected	90 <sup>th</sup> Percentile of Test	Action Level	MCLG	# of Sites sampled	Anava	Violation	Possible Source of Contamination
Lead	6/8-6/10	6	15	0	14	0	No	Corrosion of household plumbing systems
Copper	2002	.848	1.3	1.3	14	0	No	Corrosion of household plumbing systems

#### Testing for Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If you are concerned about potentially elevated lead levels in your home's water (even though overall results do not indicate elevated levels of lead), simply flush the tap for 30 seconds to two minutes prior to using for cooking or drinking. For more information on lead testing, please call Russell Tierney at 1-888-377-7678.

Total Coliform Bacteria	0	0	0	No	Naturally present in the environment
Microbial Results	Highest # Positive in a Month	MCL	MCLG	Violation	Possible Source of Contamination

Coliform - Coliform are bacteria that are naturally present in the environment and are used to indicate that other, potentially harmful bacteria may be present. Your wells have been found to be free of any trace of bacteria.

# ppm - Parts per million, corresponds to one penny in \$10,000

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## SOME TERMS DEFINED

Action Level: The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

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#### (Continued from page 1)- Is My Water Treated?

This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is sometimes beneficial to add chemicals that can form a protective coating on the inside of pipes. The calciquest added for sequestration also acts as a corrosion inhibitor. To further reduce corrosion of pipes, Assabet adds potassium hydroxide to adjust the pH to make the water neutral or slightly alkaline. Testing throughout the water system has shown that these treatments have been effective at reducing lead and copper concentrations.

All chemicals used are approved for water treatment by one or of the following organizations: National Sanitation Foundation (now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

#### What Are We Doing To Improve Water Quality?

A major cost estimate error by the original design engineer has forced Assabet Water Company to delay construction of the new filter plant. We were forced to redesign the structure that will house the facility in order to bring the project back within the original budget. We have maintained the original filtering process design. With the project back on budget, AWC anticipates breaking ground in late June or early July. The plant will take approximately four months to complete and is expected to be online in late Autumn 2003. When the new facility is in operation, it will filter out iron and manganese and will

(Continued on page 4)

This report summarizes only those items detected during sampling - not all contaminants that are monitored.

Regulated Contaminants	Date(s) Collected	Highest Detect Value	Range Detected	MCL	MCLG	Violation	Possible Source of Contamination
Inorganic Contam	inants		-		·		And the second s
Barium (ppm)	8/17/00	.052	n/a	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	8/17/00	.41	n/a	4	4	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (ppm)	7/8/02	.699	n/a	10	10	No	Animal wastes, fertilizer, natural deposits, septic tanks, sewage
<u>Unrequiated</u> Contaminants	Date Colle	cted R	esult or ange De- tected	SMCL	ORSG		Possible Source of Contamination
்தீர் Inorganic Cont	aminants		1				
Nickel (ppm)	8/17	/00	.026	-	.1	Metal allo	pys, electroplating, batteries, chemical production
Sodium (ppm)	8/17	/00	16	-	20	Natural s	ources
Sulfate (ppm)	(ppm) 8/17/00		66	250	250	Natural se	ources
Volatile Organic Ci	ontaminant	S		*****			
Chloroform (ppb)	8/17	/00	1.1	-	-	By-produ	ct of drinking water chlorination

Sodium is a naturally-occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure and hypertension. The guideline of 20 mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment at 617-624-5757.

#### SOURCE WATER CHARACTERISTICS

The sources of drinking water in the United States (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage.
- treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. These contaminants can also come from gasoline storage, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

#### SHOULD SOME PEOPLE TAKE SPECIAL PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV / AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA / CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

#### Tips To Help Conserve Water

Assabet Water Company is asking that each of you lend a hand in maintaining our water supplies. Water conservation measures are an important first step in protecting our precious resource. Such measures not only preserve the supply of our source water, but can also save you money by reducing your water bills. To help you help us, we offer the following conservation tips:

#### Inside Your Home

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices . in faucets, toilets and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers.
- Do not let the water run while shaving or brushing teeth.
- · Soak dishes before washing.
- · Run the dishwasher only when full.

(Continued from page 2)-What Are We Doing To Improve Water Quality? also ensure the proper removal of microscopic particulates in the water. Plentiful supplies of clean, healthy water will be available for both indoor and outdoor needs.

Costs associated with plant construction and operation will force us to raise your rates (approximately doubled) once you are receiving the filtered water and the Massachusetts Department of Transportation and Energy has approved the rate increase.

Until that time, please remember you are on a mandatory odd-even watering program. Please review the tips above to further conserve our water supply.

As part of our capital improvement program, we will be constructing additional water storage tanks in the next 1-2 years. This effort will significantly increase water pressure throughout the system.

#### **Outdoor Tips**

- Water the lawn and garden in the early morning or evening.
- Use mulch around plants and shrubs.
- Use water-saving nozzles on hoses.
- Use water from a bucket to wash your car, and save the hose for rinsing.

## FOR YOUR INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Where to go for more information ....

Massachusetts Department of Environmental Protection (DEP) 617-292-5885. www.state.ma.us/dep

Massachusetts drinking water education partnership www.madwep.org

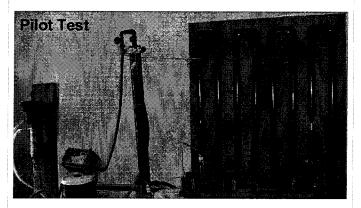
WhiteWater, Inc. 41 Central Street Auburn, MA 01501

## RIEPORT ON WATER QUAILITY

This is the Assabet Water Company's annual report to you on water quality. The statistics in this report are based on testing done throughout 2003 and prior years. We hope you will find it helpful to know the sources of your water and the process by which safe drinking water is delivered to your home.

## What Are We Doing To Improve Water Quality in 2004?

The Assabet Water Company is expecting DEP approval on a start date for the new water treatment facility in early July 2004. Currently, we are running a pilot test on the treatment processes. A pilot test is a small-scale version of the larger system and is used to evaluate performance under field conditions



With the project back on budget, AWC anticipates breaking ground in late July early August, with the plant taking approximately four months to complete. When the new facility is in operation, it will filter out iron and manganese and will also ensure the proper removal of microscopic particulates in the water. Plentiful supplies of clean, healthy water will be available for both indoor and outdoor needs.

(Continued on page 2)

#### Maintaining Water Quality

The Assabet Water Company continuously strives to produce the highest quality water possible to meet or surpass every water quality standard. We monitor both our sources and distribution system very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

In order to ensure tap water is safe to drink, the DEP and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

#### Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water we deliver to you, we treat it to remove several contaminants.

Primary Disinfection-Some ground water sources contain numerous microorganisms some of which can cause people to be sick. To eliminate disease carrying organisms it is necessary to disinfect the water. Disinfection does not sterilize the water, but it does destroy harmful organisms. Sterilization kills all microorganisms, even though most are not harmful, and is too costly to use on a routine basis. The Assabet Water Co. uses sodium hypochlorite as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Sequestration-Iron and manganese are often present in groundwater at levels that can discolor the water, or cause it to take on unpleasant odors or tastes. Even though the water may still be safe to drink, treatment is often desirable. Treatment consists of adding calciquest to the water. This results in a chemical reaction, known as sequestration, which prevents the iron and manganese from forming nuisance particles.

Corrosion Control-Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through.

(Continued on page 2)

## Assabet Water Company, Inc.

WhiteWater, Inc. has owned, operated and maintained the water system of the Assabet Water Company since December 1, 1999. If you have any questions about this report, please contact:

James W. Majewski at



This report summarizes only those items detected during sampling - not all contaminants that are monitored.

Lead & Copper		90 <sup>th</sup> Percentile of Test	Action Level	MCLG	# of Sites sampled	# of Sites Above Action Level	Violation	Possible Source of Contamination
Lead	9/26/03 &	10	15	0	40	0	No	Corrosion of household plumbing systems
Copper	9/30/03	.54	1.3	1.3	13	0	No	Corrosion of household plumbing systems

#### Testing for Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If you are concerned about potentially elevated lead levels in your home's water (even though overall results do not indicate elevated levels of lead), simply flush the tap for 30 seconds to two minutes prior to using for cooking or drinking. For more information on lead testing, please call Jimmy Majewski at 1-888-377-7678.

Microbial Results	Highest # Positive in a Month	MCL	MCLG	Violation	Possible Source of Contamination
Total Coliform Bacteria	1 0	] 1	1 0	l No	Naturally present in the environment

Coliform are bacteria that are naturally present in the environment and are used to indicate that other, potentially harmful bacteria may be present. Your wells have been found to be free of any trace of bacteria.

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- ppm Parts per million, corresponds to one penny in \$10,000
- ppb Parts per billion, corresponds to one penny in \$10,000,000
- pCi/L Picocuries per liter
- ND Non-detect
- n/a -not applicable

### SOME TERMS DEFINED

Action Level: The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Secondary Maximum Contaminant Level (SMCL): These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (ORSG): This is the concentration of a chemical in drinking water, at or below which, adverse, non-cancer health effects are likely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action

Total Coliform: A bacteria that indicates other potentially harmful bacteria may be present.

**90<sup>th</sup> Percentile:** Represents the highest value found out of 90 percent of the samples taken in a representative group.

#### (Continued from page 1)- Is My Water Treated?

This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is sometimes beneficial to add chemicals that can form a protective coating on the inside of pipes. The calciquest added for sequestration also acts as a corrosion inhibitor. To further reduce corrosion of pipes, Assabet adds potassium hydroxide to adjust the pH to make the water neutral or slightly alkaline. Testing throughout the water system has shown that these treatments have been effective at reducing lead and copper concentrations.

All chemicals used are approved for water treatment by one or of the following organizations: National Sanitation Foundation (now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

(Continued from page 1)- What Are We Doing To Improve Water Quality in 2004?

As we have discussed with you, costs associated with plant construction and operation will force us to approximately double your rates once you are receiving the filtered water and the Massachusetts Department of Transportation and Energy has approved the rate increase.

Until that time, please remember you are on a mandatory odd-even watering program.

WAIVER-The Massachusetts Department of Environmental Protection has reduced our monitoring requirements for volatile organic (VOC), inorganic (IOC) and synthetic organic(SOC) contaminants because the source is not at risk of contamination. The last sample collected for VOCs and SOCs was taken on 12/22/03 and for IOCs on 8/28/03. All were found to meet all applicable EPA and DEP standards.

<u>Regulated</u> Contaminants	Date(s) Collected	Highest Detect Value	Range Detected	MCL	MCLG	Violation	Possible Source of Contamination
Inorganic Contan	inants		!				
Barium (ppm)	8/28/03	.04	n/a	2	2	No	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Fluoride (ppm)	8/28/03	.12	n/a	4	4	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (ppm)	8/28/03	.66	n/a	10	10	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Radioactive Conta	minants						
Radium 226 & 228 combined (pCi/I)	9/30/03	1.2	n/a	5	0	No	Erosion of natural deposits

<u>Unregulated</u> Contaminants	Date(s) Collected	Result or Range De- tected	SMCL	ORSG	Possible Source of Contamination
Inorganic Contami	nants -		***************************************		4 Property Control Con
Sodium (ppm)	8/28/03	14	-	20	Natural sources
Sulfate (ppm)	8/28/03	46.9	250	250	Natural sources
PVolatile Organic Conta	minants				
Chloroform (ppb)	12/22/03	.64		-	By-product of drinking water chlorination

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- Inorganic contaminants, such as salts and metals, which
  can be naturally occurring or result from urban storm •
  water runoff, industrial or domestic wastewater
  discharges, oil and gas production, mining, or farming.

- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
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#### SWAP

#### (Source Water Assessment and Protection)

The DEP has prepared a Source Water Assessment Program (SWAP) Report for Assabet Water Company. The report assesses the susceptibility of public water supplies to contamination and makes recommendations.

This report is available from WhiteWater, Inc. located at 70 Foster Street in Southbridge, MA, and also at the DEP website: www.state.ma.us/dep/brp/dws/. If you have any questions, please contact WhiteWater, Inc. at 1-888 377-7678.

A susceptibility ranking of <u>moderate</u> was assigned to our two wells which both have Zone I areas (perimeter from wellhead) of 300 ft., although Well #1 is off line since coming under the influence of surface water. The DEP recommends the following in protecting the Assabet Water Company wells:

- Remove all non-water supply activities from Zone I.
- Instruct residents on the proper disposal of spent household chemicals. Septic systems should be inspected and maintained on a regular basis.
- Do not use pesticides or fertilizers within the Zone I.
- Discourage wildlife by prohibiting the feeding of ducks or other wildlife.

Assabet Water Company plans to address the protection recommendations by:

- Developing a Wellhead Protection Plan in concert with our certified operator, WhiteWater, Inc.
- Communicate with residents about proper disposal of spent household chemicals.
- Insure septic facilities near wells are inspected and maintained
- Continue to educate residents on protecting water supplies by making this report available by calling 1-888-377-7678

## Where Does My Water Come From?

The Assabet Water Company (AWC) supplies water pumped from one groundwater well (Well #2) within Harvard Acres off Adams Drive.

A second well (Well #1) has been placed on the MA Department of Environmental Protection's inactive list due to surface water influence.

We have designed and will be installing a new water treatment plant to bring this well back on line. Please refer to page 1 of this report for details (What Are We Doing To Improve Water Quality in 2004?).

Water is then stored in two 40,000-gallon towers and distributed to customers through approximately 18,000 linear ft. of underground pipe.

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Where to go for more information ....

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www.state.ma.us/dep

Massachusetts drinking water education partnership www.madwep.org